

Theodore
Besterman

136

P.

S.

Saitome's act
of Engraving
given to me

John Ashby

by

Mr John Clark

book binder

in y^e year

1693



THE ART
OF
GRAVEING ♦
and
ETCHING ♦

*wherein is exprest the
true way of Graueing
in Copper.*

allso

*The manner & method
of that famous
CALLOT, & M^r. BOSSE.
in their Seuerall ways
of Etching.*

PUBLISHED

by

WILL^m. FAITHORNE.

*And Sold at his Shop next to y^e. Signe
of y^e. Drake, without Temple Barr.*



To the Right Worshipfull
Sir Robert Peake Knight.

SIR,
THe Honour of having serv'd his
late Majesty (under your Con-
duct) in the Garrison of Basing,
hath given me some reputation in the
World, and the happinesse of having
serv'd your self, before the Warrs, hath
given me a Condition of living in it. in
both, under the Regiment of your Com-
mand. you chang'd the steel of my Tools
into Weapons, and the exercise of my
Arts into Arms; when the service of the
King challenged the duty of his Subjects,
you then prompted me unto Loyalty: that
service unhappily ending, you re-advised

A

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a returne to my imployment: the whole
course of my life, having thus in some
measure been an Observancy of your Di-
rections ; to whom should I dedicate the
Issues of my Labours in it , but to you :
and having now to present my Countrey
with something of use, profit, and delight,
take occasion by these to speake my grati-
tude, and preserve to my self the honour
of continuing what I have been,

Sir,

Your humble and
devoted servant,

William Faithorne.

To

To the Lovers of this Art.



Have had the thoughts oft-times to publish this ensuing Treatise of Graving and Etching, because it hath arrived to such an height in these our latter times, as it becomes a fit subject for our Kingdomes knowledge and practice. We need no other witnesses to confirm this truth, than the Works of those famous Masters, the *Sadlers*, *Goltzius*, *Bleumart*, *Mellan*, *Natalis*, *Pontius*, *Poilly*, &c. And as for Etching, we are obliged to that Renowned *Callot*, and his Disciple *Bosse*; who hath not only practised, but also hath been so courteous as to discover in the *French* Tongue, this Art unto his Country men. I have used him as an Author in this Work, yet I have not traced him so closely as to make it a meer Translation; but added something, making use of what I thought necessary: So as (I hope) I am neither so tedious as to be troublesome, nor so short as to be obscure.

I shall not trouble my self to speak in the Commendation of this Art, but (to those that may seem to detract from it) give me leave

only to say thus much; that, the result of Ayre,
the Symetrie of parts, the exact harmony of
Proportions, of lights and Shadows, may be
performed to the height in Graving. Therefore
I recommend it to publick view, hoping of it's
fair Reception by all Lovers of Arts; which
is the utmost aim and expectation of

W. F.

To

To my ingenious Friend Mr. *Faithorne* of
his Book.

Should I attempt an Elogy, or frame
A Paper Structure to secure thy Name ;
The lightning of one censure, one stern frown
Might quickly hazard that, and thy renown.
But this thy Book prevents my slender pain,
One Line speaks purelier Thee, than my best strain.
Those Mysteries (once like the spightfull mold
That bars the greedie Spaniard from his Gold)
Thine ingenuitie reveals, and so.

By making plain, thou dost Illustrious grow.

That hand, whose curious Art protracts the date
Of frail Mortalitie, and baffles Fate
With Brasse and Steel, can surelie potent be
To rear a statelie Monument for Thee.

For my part, I prefer (to guard the Dead)

A Copper Plate, before a sheet of Lead.

So long as Brasse, so long as Books endure,

So long as neat-wrought Pieces, Thour't secure,

A *Faithorne* sculpsit is a Charm can save

From dull Oblivion, and a gaping Grave.

T. Flatman.

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FINIS.

The Art of Graving.

with *Aqua fortis*.

Sect. 1. How to make the hard Varnish for engraving with Aqua fortis.

TAKE five ounces of Greek pitch, or (for want of that) Burgundy pitch, five ounces of Rozin of Tyre, or *Colefonium*, or for want of that) ordinary Rosine : Melt them together upon a gentle fire in a new earthen pot, well varnished, or leaded, and being very clean : These two things being first melted, and well mixt together, put into them four ounces of the best Nut Oyl ; mix them well together upon the same fire the space of a full half hour, and let them boyl well ; Then let this mixture cool a little upon a softer fire ; and afterwards, touching it with the end of your finger, it will rope (if it be boyled enough) like a glewy Syrup. Then take the pot from the fire, and (the varnish being a little more cooled) strein it through a fine Linnen cloth, or Taffata, into a well varnished earthen pot ; or else put it into any thick glasse bottle, or any other thing that will not drink it up, and stop it well. Varnish thus made will last twenty years, and it will be the better the longer it is kept.

It is reported of *Monsieur Callot*, that he had his varnish sent him ready made from *Italy*, which was made there by the Joyners, who used it to var-

nish their work: They called it *Vernice grosso de Lignaioly*: He gave some to the Author, which he used a long time; but since made use of the varnish whereof you have a description before.

Sect. 2. How to make the composition or mixture of grease and oyl, to cover those places in your plate, where you would not have the Aqua fortis to eat in.

TAKE an earthen porringer well leaded; put into it a quantity of Sallad oyl, and set it on the fire, and when the oyl is hot, put into it a quantity of Candles-grease; when that is melted, take a pencil and dip it in, and let a drop or two fall on a plate, or any cold hard thing; and if the drops be a little hardened and firm, it sheweth that the mixture is well made. For you may judge, that if it is too liquid, it is because there is too much oyl; and if so, then you must put in more grease; and by the same reason, if it be too hard, you must put in more oyl: having made it in this manner, boyl it well the space of an hour, that the oyl and the grease may be well mixed together, and that you may perceive them of a reddish colour, otherwise they will be apt to separate, when you should use them.

The reason why you melt the oyl, and the grease together, is to make the grease more liquid, and not cool too fast: for should you melt the grease alone, you shall no sooner take it up with the point of your pencil to carry it to the place where you would use it, but it will grow cold.

Put in a greater quantity of oyl in Winter, than in Summer.

Sect. 3.

Sect. 3. *How to prepare the Ingredients for making the Aqua fortis for the hard varnish.*

THe *Aqua fortis* is made of Vinegar, Salt Armoniack, Bay-salt, and Vert de griz.

The Vinegar must be of the best sort of white-wine Vinegar; but if it be distilled, it is the better, and not so subject to break up the varnish.

The Salt Armoniack must be clear, transparent, white, pure, and clean.

The Bay-salt must be also pure and clean.

The Vert de griz must be clean, and free from any scrapings of brasse.

The Salt Armoniack and Vert de griz are commonly sold at the Druggists.

Sect. 4. *How to make this Aqua fortis.*

TAke three pints of Vinegar, six ounces of Salt Armoniack, six ounces of Bay salt, and four ounces of Vert de griz; or of each according to this proportion, as you will make your quantity more or lesse: put them all together in an earthen pot well varnished, large enough, that it may not boyl over: Cover the pot, and put it on a quick fire, and let it speedily boyl two or three great walmes and no more: When you perceive it ready to boyl, and not before, uncover the pot, and stirre it with a little stick sometimes, and take heed that it do not boil over: Having thus boyled it two or three great walmes, take off the pot from the fire, and let it cool; but keep the pot covered, and

when it is cold poure it into a glasse bottle, and let it stand stopped a day or two before you use it: and if you shall find it too strong in the etching, poure into it a glasse or two of the same Vinegar you made it of.

Sect. 5. How to know good Copper from bad.

Copper is best for graving with a Graver, or *Aqua fortis*; Brasse is too brittle. That Copper is best which is free from flaws, and not too hard, which you may perceive by its yellowish colour, almost like brasse: & if it be too soft, you may somewhat perceiv it by its too much pliableness in bending. When you are to make use of it, you shall perceive (in that which is good) a firm, yet easie force in the entring of your graver: and that Copper which is best for graving, is also best for etching.

Sect. 6. How to planish and polish your Plate.

Here in *England* you must buy your Copper ready forged from the Brasiers.

It is not necessary, that they which desire to engrave should forge and polish their Copper themselves; but because in divers places there is not conveniency of having it ready polished, I have thought fit to set down the manner how it may be done.

Those Plates which you intend to forge and planish,

sh, must be fully as thick as an half-crown, because in their forgeing and planishing they will become somewhat thinner. You must planish your opper cold, as the Silver-Smiths do their Plate: and the more it is beaten or planished with an mmer, the firmer it is, and lesse subject to holes flaws.

Your Plate being well planished, make choice of the smootheest side for polishing: Before you begin polish it, fix it upon a board; and when you polish it, let your board (to which the plate is fixed) be a little declining or sloping.

To polish your Plate, take a piece of a Grinding-stone about the bignesse of your fist, and fairter, and rub it firmly, and evenly all over; and your rubbing throw water often on it, and continue so doing, till you cannot perceive any dints, flaws, or marks of the hammer: Then wash it in with water: Afterward take a good Pumice-stone, and rub the same Plate with it and water, till there appear none of the rough stroaks, or marks of the stone: Then wash it clean with water, as I did before.

Again, do the same thing with a fine smooth stone and water, till all the marks of the Pumice-stone are quite rubbed out: This done, wash it in with fair water.

Then choose out a Chark-cole smooth, without knots, or rough grain, and put it in a well-kindled fire: let it be there, till you may perceive it red hot; Then take it out of the fire, and immediately quench it in cold water; Then scrape it out, and pair off the uttermost rind, and

rub your Plate with it, and water, till all the small strokes of the Hone be rubbed out : If the cole be naught, it will only slide upon the Plate, and not rub out the strokes.

After you have thus polished it with a Chark-cole, if you perceive any small stroaks, or scratches on your Plate, then take a well-hardened piece of steel, made somewhat roundish at the end, which is commonly called a burnisher; and with it rub those places firmly and evenly, where you perceive any strokes, or scratches. When you have done this, wash it clean, and dry it by the fire : and if by any accident your Plate be foul or greasie, take the crummes of stale bread, or fine-powdered Chalk, and rub your Plate over with it : The Plate being thus polished and cleansed, is fitly prepared to lay on your Varnish.

Sect.

Sect. 7. How to apply your hard Varnish on the Plate, and make it black.

TAKE your Plate thus cleansed, and lay it on a chafing-dish with a little fire in it, and when it is indifferently hot, take it away, and take up some of the Varnish with a little stick, and put a drop of it on the top of one of your fingers; then lightly touch the plate with the top of your finger in severall places at equall distances; as the uppermost figure in the plate sheweth you, the same being marked with the letter O: and lay no more on one place then on another. And if your plate grow cold, heat it again as before, being very carefull to keep it from dust or filth. This done (having well-wiped the fleshy part of the palm of your hand) tap it upon the Plate, till all the little spots of varnish are equally spread upon the Plate.

After this tapping, wipe or slide your hand upon the Varnish, to make it more smooth, and equal: Take great care, that there be not too much Varnish upon the plate, and that your hand be not sweaty; because the sweat mixing with the Varnish, wil cause little bubbles, when it is applied to the fire, which will become little holes in the Varnish.

Your Varnish being thus smoothed upon the Plate, the way to black it is thus. Take a great tall-candle lighted, which burneth clear; let it have but a short snuff; then place the corner of your plate against the wall, with the varnished side downward, as the lower figure in the Plate represents it to you.

Take heed that your fingers do not touch the Varnish : then take your candle, and apply the flame to the Varnish, as close as you can without touching the Varnish with the snuffe of the candle : guide the flame all over, till you see it perfectly black ; keep it then from dust or filth untill it be dried .

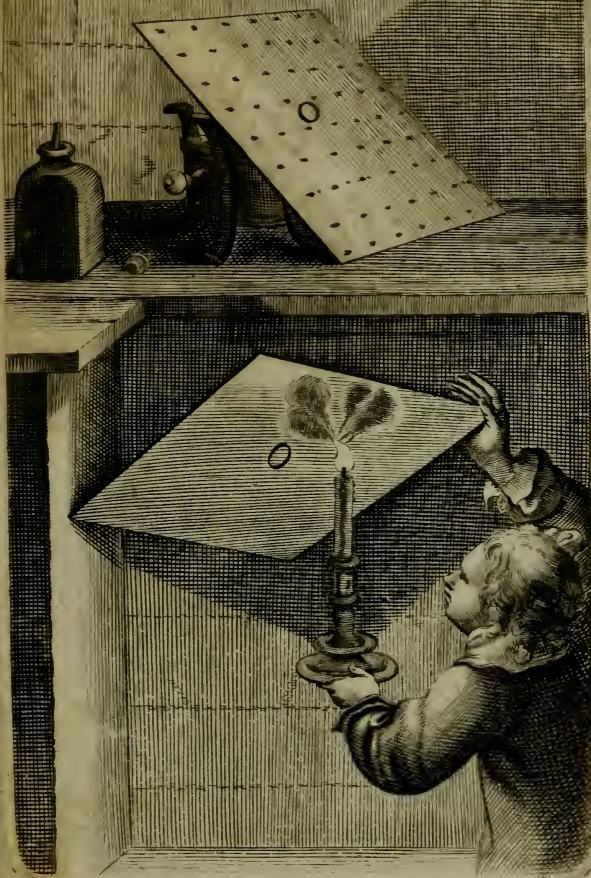
Plate 1, 2.

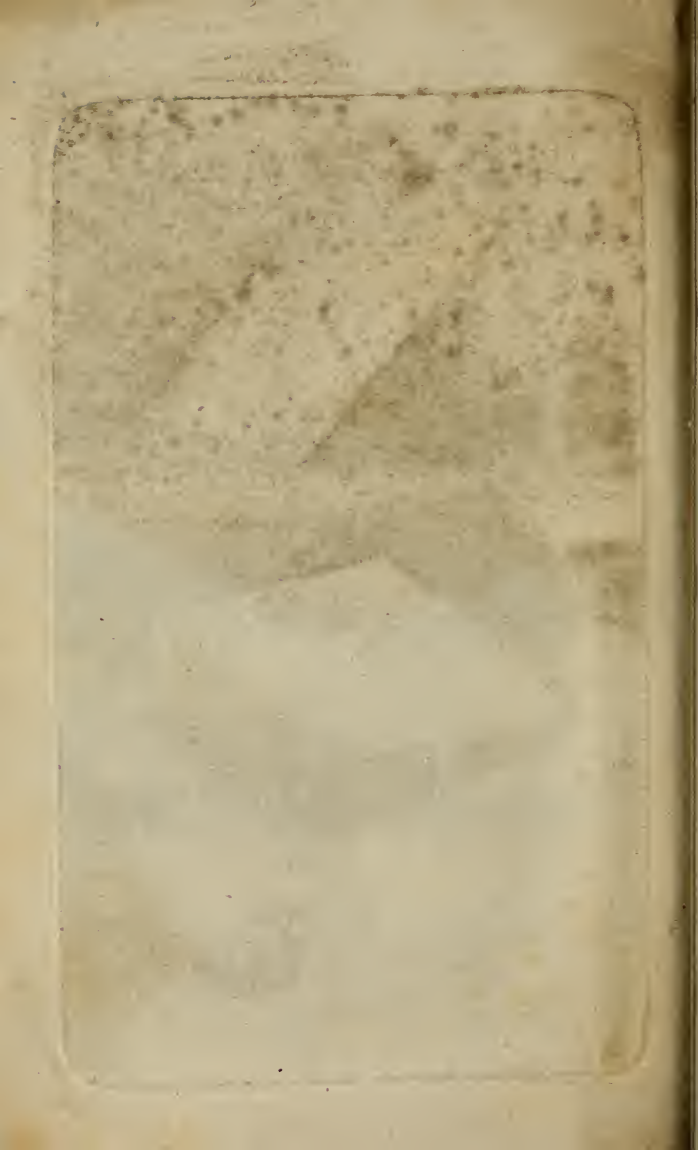


Sect. 8.

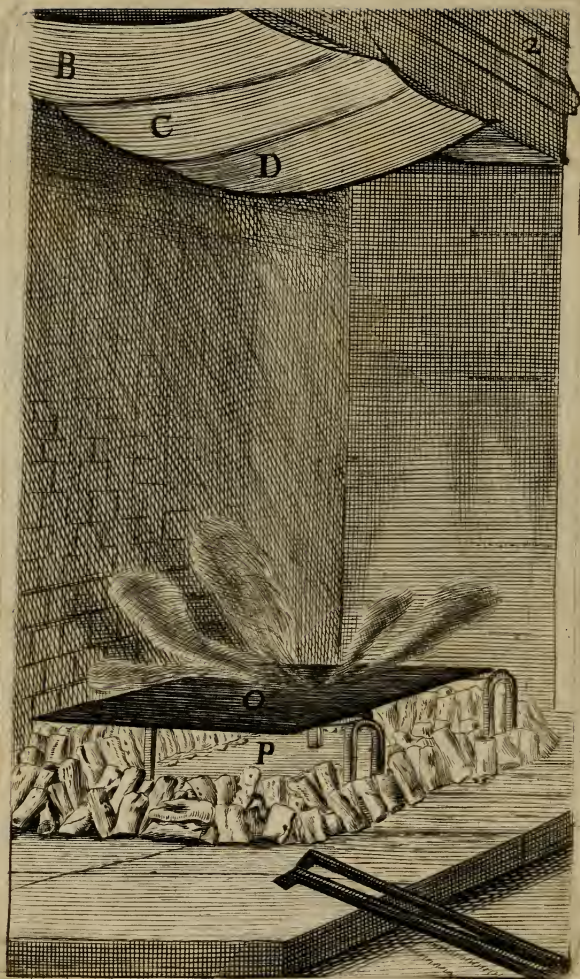


1.









sect. 8. How to dry, or harden the Varnish upon the Plate.

Kindle a fire in a chimney of such chark-coles as are not subject to sparkling, and when they are well kindled, range them in a square somewhat larger than the Plate, as the letter P sheweth you. Before you place your plate to be dried, hang up a cloth in the chimney to hinder and keep off any soot or filth from falling down upon it, as you may see by the letters B C D. Then take your plate and place it in the middle of the range upon two low Andirons, as the letter O directs: this done, you will soon perceive the Varnish to smoke; and when you perceive the smoke begins to abate, then take off the plate from the Andirons, and with a stick pointed scratch near the side of your plate; and if it easily take off the Varnish, then you must lay it again upon the Andirons for a little space: Then take it off, and touch it again with your pointed stick, and if it take off the Varnish not too easily, then immediately take it from the fire and let it cool.

If the Varnish do much resist the point of the stick, then presently throw on some cold water on the back-side of the plate to cool it, so that the heat of the plate may not cause the Varnish to be too hard and brittle.

Sect. 9. How to choose your needles wherewith to make your tools to etch with. Pl. 3.

Choose some broken needles of severall sizes and bignesse, such as break neat without bending, and of a fine grain. Then take round sticks of a good firm wood, not apt to split, of the length of half a foot or somewhat lesse, of the thickenesse of a good large quill: at the ends of which sticks fix in your needles, so that they stand out of the sticks about as much as you see in the figure following.

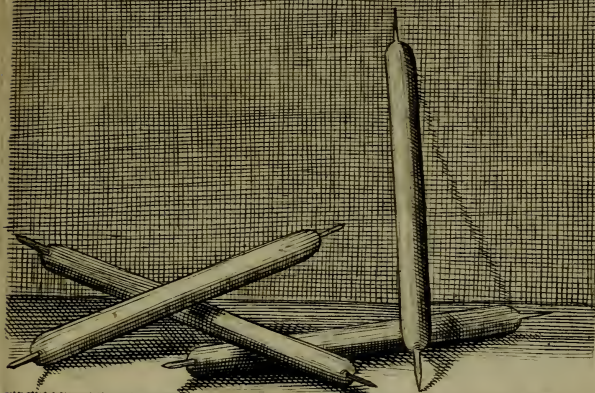
Sect. 10. How to whet the points of your needles.

There are two wayes of whetting your needles, the one round, the other sloping.

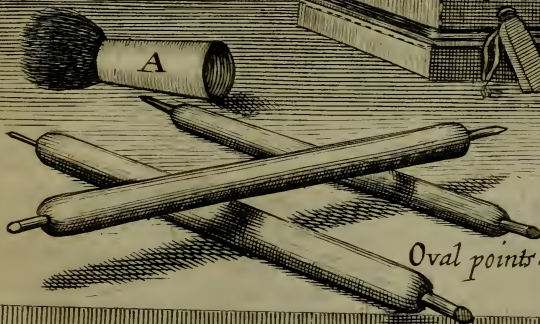
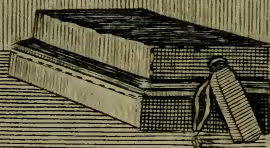
You must have an oyl stone with a fine grain to whet your needles upon. For those you would have to be round, you must upon the oyl-stone whet their points short, not as your sowing needles are, but as the Figure shews you. For the other which you intend to make sloping, first upon the oyl-stone make it blunt, then holding it firm and steddily, whet it sloping upon one side only, till it come to a short roundish Oval, for the long Oval is not so good to work with.

You will need a soft brush-pencill, to brush off the varnish, which you work off with the strokes of your needle, as is represented by the Letter A.

Sect. 11.



the Oyl-stone.



Oval points.



Sect. 11. *To preserve your Varnish upon the plate.*

YOur plate being varnished, place it upon a low desk or such like thing, and cover that part which you do not work one with a sheet of fine white paper, and over that a sheet of brown paper, whereon you rest your hand to keep it from the varnish when you work.

When you have occasion to use your Ruler to draw streight lines, lay some part of it upon the paper, that it may not rub off the varnish. But above all things have an especiall care that no filth or dust gets in between the paper and the varnish, for that will cause some holes and scratches in the varnish.

Sect. 12. *How to etch.*

IN etching you will have occasion to make divers sorts of lines or hatches, some bigger, some smaller, some streight, some crooked. To make these you must use severall sorts of needles, bigger or smaller as the work requires. The great lines are made these three severall wayes,

1. By leaning harder on the needle, and the point being short and thick makes a larger passage; but the point being round it will not cut the varnish clear.

2. By making divers lines or hatches, very close one to another, and then by passing them over again with a thicker needle; but this way is both too tedious and withall very difficult.

3. By making the lines with an indifferent bigg
needle,

needle, and letting the *Aqua fortis* lie the longer on it. Those needles which you whet sloping with an Oval, are the best to make the large lines withall, because with their sides they cut that which the round points cannot.

Pl. 4.

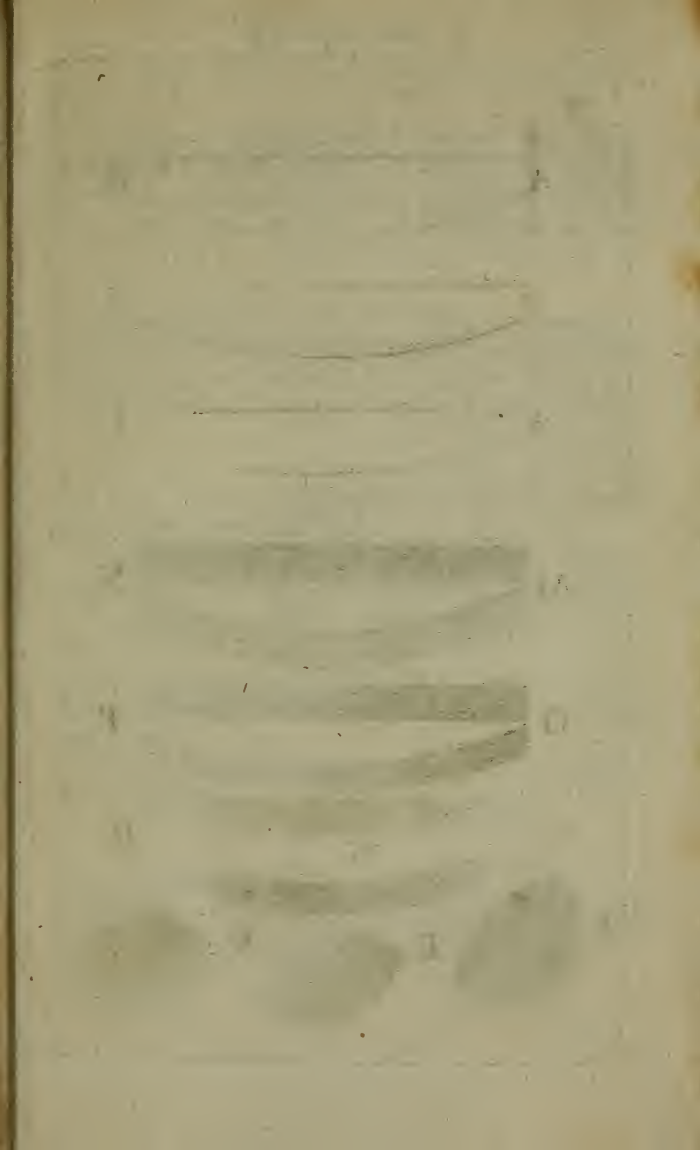
Se&t. 13. *How to guide your needles upon the plate.*

YOU may perceive from what is said, that those points which you intend to make use of, in graving with *Aqua fortis*, ought to be whet exactly round, that they may turn more freely upon the plate. Some of those round points must be whet very sharp, that they may cut the varnish and copper more easily. If you find that your point cuts not freely and smoothly, 'tis because it is not whet exactly round.

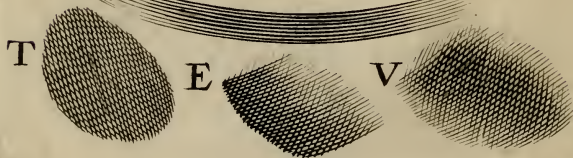
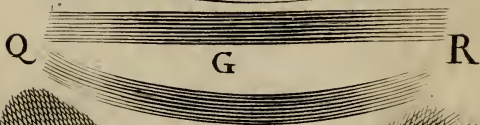
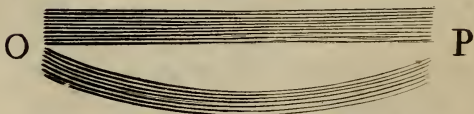
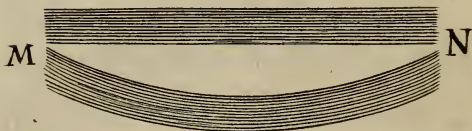
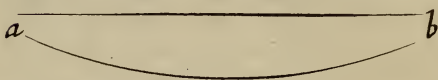
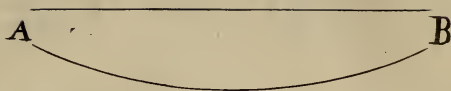
If you have occasion to make your lines or hatchures of an equall bignesse from one end to the other, whether they be streight or crooked, as those two lines in the letters A B represents, you must, as reason will tell you, lean on your point with an equall force from one end to the other.

If you would make your strokes thicker at one end then at the other; as the second letters A B shews you, then you must lean on your point with your hand harder at the beginning, and by degrees lighter and lighter towards the end.

If you would have your strokes to be such as are represented in the third figure marked also a b, that is to say, larger in the middle then at either end, you must lean gently at the beginning, & then by degrees harder and harder till you come to the middle, and then



4



then by degrees lighter and lighter till you come to the end.

These three sorts of lines or hatches may indifferently serve for all manner of hatching your shadows in any design whatsoever, as appears in the figures, M N. O P. Q G R. T E V. wherein is manifest, that the shadowing is but a reiteration of the same strokes close one to another.

If you desire that your etching with *Aqua fortis* should look as like graving as may be, you must lean hard upon your needle in those places where you would have the lines appear deep and large, that is, so hard that the needle may make some impression in the copper. And by the same reason you are to lean very light on those places which you would have appear faint and small.

If it happen that you have made some lines or hatches too small, and are desirous to enlarge your stroke, you must passe it over again with a round short point, of such a thicknesse as you desire your line should be of, and lean strong and firmly on those parts of the line which you would have large and deep.

If at any time, by reason of the large lines or hatches, which you were to make, you have used an Oval point (which is the best to cut the varnish) you must afterwards, with one of your large needles whetted short and round, passe in the midst of the said stroke firm and strongly, but especially in those places which you would have large and deep.

Sect. 14. *How to use the Oval points to make large strokes in etching or graving with Aqua fortis.* Pl. 5.

YOU may see in the figure A B C D the form of those Oval points, and that part next to C describes the end of it, and B D the sides. The manner of holding it is much after the manner of holding a pen, only the flat side whetted is usually held towards the thumb, as is represented in figure iii. Not but that it may be used otherwise, with the face of the Oval turned towards the middle-finger; as it is shewn in Fig. iv. but I have found the other manner to be much better, because that way you may more firmly and with more strength inforce your strokes.

Now to shew you how to make your strokes large and deep, and that these Oval points are the most proper for it, take notice of the two upper first and second figures, which are made the larger purposely, that you may the better apprehend what shall be hereafter spoken of it. Your own reason will tell you, that if you lean lightly in making your strokes, those strokes will accordingly be lesse deep, smaller, and more faint; for the harder you lean, the deeper and larger your strokes will be. Of this you have an example in the third figure marked r n s; where leaning lightly at the beginning, viz. r. and then harder by degrees to n. and afterwards lighter by degrees to s. you make your stroke bigger or smaller according to your leaning on it, as you find represented in the said third Figure.

But if you would have your strokes come very small and delicate at the end, then with the point of
your

Fig: I

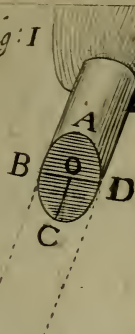


Fig: II



Fig: III

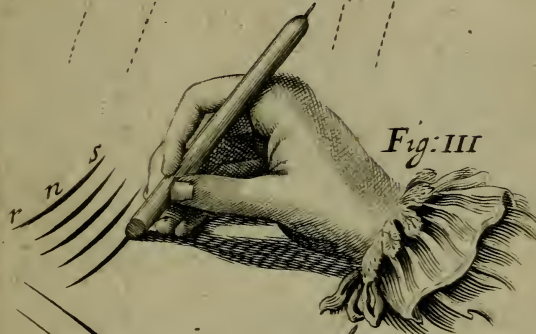


Fig: V

Fig: IIII



your small needle lengthen out your stroke, as you find it represented in the two strokes of the fifth Figure.

Some will first make their stroke with a round needle, and then paste it over again with an Oval point to enlarge it in those places which they would have deeper and bigger; but the other is the better way.

They that know how to grave after they have done etching their lines with *Aqua fortis*, may with the assistance of their graver make them more neat and deeper.

I shall only think it not amiss to advise you by the way, that in making your strokes with your Oval points, you must hold them as upright and straight in your hand as you can, and accustom yourself to strike your strokes firm and bold, for that will contribute very much to their neatness and clearness. To do this the better, you must be very carefull to have your points alwayes well setted.

In those places which you would have appear in your piece by way of Landskip, that is at the furthest distance from the sight, as also in those places which approach nearest the light, you must use a very slender point, leaning so lightly with your hand, as to make a small faint stroke. But when you come to those places which you would have more shadowed, and so much the harder, as that when you come to et it in with your *Aqua fortis*, you may cover most of your faint places at one and the same time, for you must know that those strokes, which you lean lightest on, do little more then raise up the varnish. So that
when

when you shall apply your *Aqua fortis* to etch it, it will appear much fainter then in those places where you have leaned with greater force, though the strokes are done with one and the same needle. In-
somuch, that when you shall have cover'd the greatest part of your faint places with your mixture, those places, whereon you lean'd more strongly, will appear deepest, though they were all covered at the same time. In your working be carefull to brush off all the dust which you work off with your needles.

Sect. 15. *How to prepare your plate to receive the Aqua fortis.*

YOUR plate being finished and ready for the *Aqua fortis*, brush off all the rubbidge and dust that is in the strokes. And if there happen to be any strokes which you would not have the *Aqua fortis* eat into, or any places where the varnish is rubb'd off, then melt your mixture of oil and grease which you have made, and with a pencill, bigger or smaller, according to the proportion of those places which you would mend, cover those places indifferently thick, and the *Aqua fortis* will not eat in.

This done, take a brush or pencill, or rag, and dip it into the said mixture of oil and grease, and rub the back-side of your plate all over, to prevent the *Aqua fortis* from eating any part of it; but take heed that your mixture be not too thin or liquid, for if it be, when you cast your *Aqua fortis* on the plate, it will force it from those places whereto you had applied it.

When I find my mixture begin to grow cold, I
com-

monly use to put some small quantity of it on my left hand, thereby to keep it warm, to be used as occasion shall require.

In the winter time, especially when the weather is cold and moist, before you apply your *Aqua fortis* to the plate, it will not be amiss to warm it gently by the fire, to dry up the moisture, which the plate is subject to by reason of the distemperature of the weather. Nay if it be not warmed, it may haply endanger the breaking up of the varnish, upon the first pouring of the *Aqua fortis* upon the plate.

C

Sect. 16.

Sect. 16. *How to make your trough and frame to hold your plate when you would poure the Aqua fortis on it.*

THe Figure opposite hereto represents both trough and frame. The letter A is one intire piece of Elm or Oak, of about four inches thick and six inches broad, and may be of such a length as you shall think fittest for your use. You must cut this piece of wood into the fashion of a trough, as the figure sheweth you, making it a little deeper in the middle, that the water running thither may fall through a hole there made for that purpose. Set this upon a Tressel with four leggs as the figure shews you.

Under the hole in the trough, place an earthen pan well leaded on the inside, as you see in the figure B; and therein put your *Aqua fortis*, let it not stand too much below the trough.

The figure M N O P is one intire board of an indifferent largeness as you may judge by the figure. About the two sides and top of which board you must fasten a ledge about two inches broad, to keep the *Aqua fortis* from running off from the sides, when you poure it on. The inside of this board and trough must be covered or primed over with a thick oil-colour, to hinder the *Aqua fortis* from eating or rotting the board. Place the lower end of this board in the trough leaning sloping against a wall or any other thing. In the board you must fix severall peggs of wood or nails whereon to rest your plate.

The

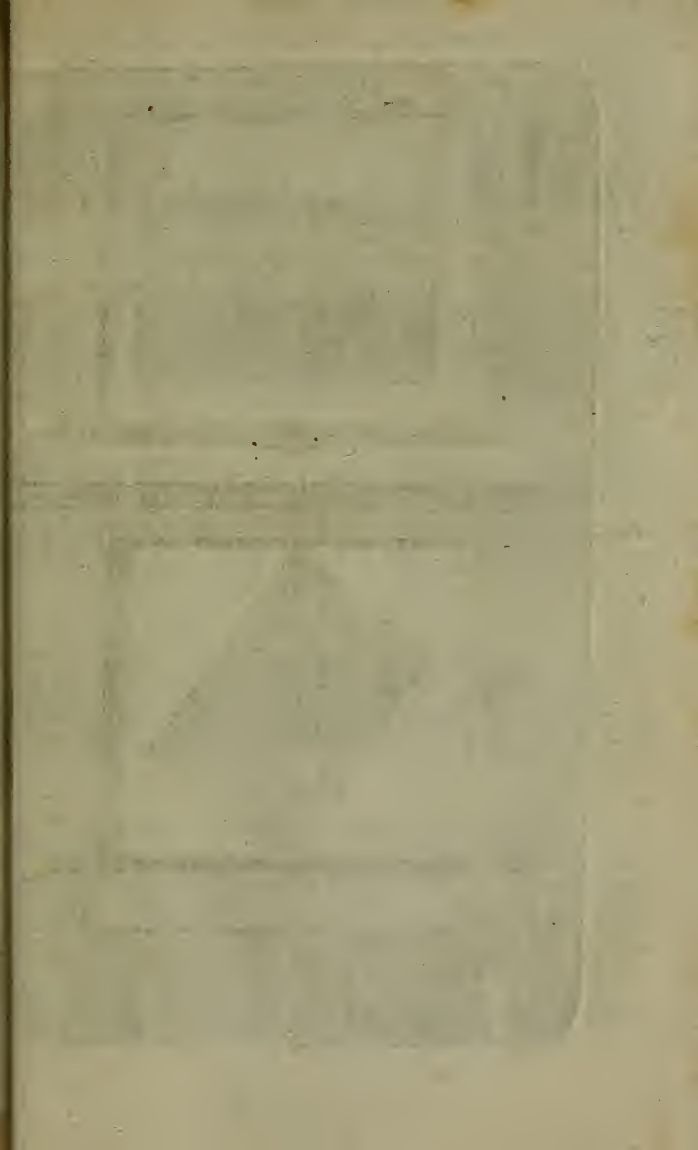


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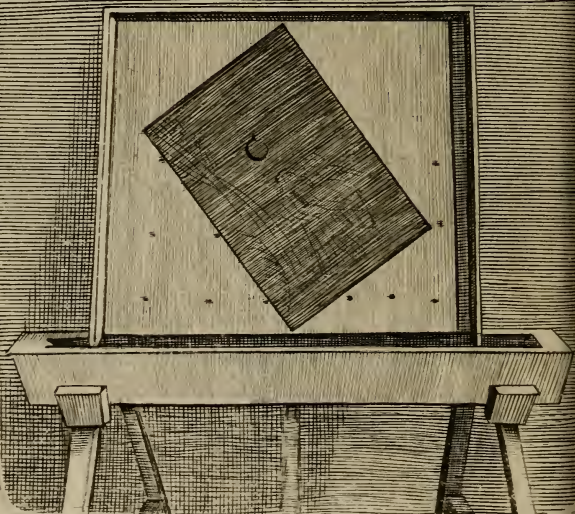
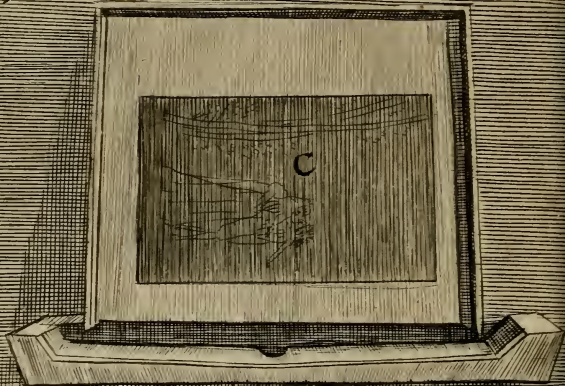


How to poure y^e Aqua Fortis upon y^e Plate.





7



The figure **Q** describes a little earthen pot well leaded on both sides, which you must have to take up your *Aqua fortis* out of the panne, and to pour it on the plate.

Sect. 17. *The manner of casting the Aqua fortis upon the plate; as also how to cover the places, that are faintest and most remote from the eye, with the fore-mentioned mixture, as occasion shall require.*

HAVING observ'd the way of placing the plate for the receiving of the *Aqua fortis*, there remains only to consider the method you are to follow in casting it on as occasion shall require; for in some works it will be necessary to cast it on severall times; for the reasons hereafter to be mentioned. Having a sufficient quantity of *Aqua fortis* in your pan, fill your earthen pot, and poure it upon your plate, beginning at the top, and moving your hand equally so that it may run all over the plate, taking great heed that the pot touch not the plate. Having so pour'd 8. or 10. times, the plate being as in the posture express'd in the precedent figure, you must turn it crosse-ways, as is represented in the upper part of the following figure marked C, and poure on it as it lies that way ten or twelve times as before: That done, turn your plate suitably to the posture express'd by the lower part of the following figure aforesaid, that is to say, corner-wise, and as it lies so, poure thereon eight or ten times; pouring the *Aqua fortis* thus at severall times, for the space of half a quarter of an hour, more or lesse, according to the strength of the water, and nature of the copper.

For if the copper be brittle and hard, there must be the lesse time allow'd for the pouring on of the water; but if soft, the more.

And whereas you may not haply at the first be so well assured of the strength of your water, and the precise quality of your copper, it will not be amisse to give you some directions how to know both, that you may proceed according to the strength or neatnesse which you expect to find in your work. For there are some pieces require more force, and some more tendernesse then others. To know therefore the nature of your copper, and the strength of your water, that they be such as the work you intend doth require, pour of it on your plate, for the first time, as is before mention'd, for the space of the fourth part of a quarter of an hour. Then take away the plate, and cast on it a quantity of fair water, holding the pot at a good height from the plate, to wash off the *Aqua fortis*; for if it be not clean wash'd, the work will appear green, and consequently, you cannot so well perceive the operation of your *Aqua fortis*.

That done, hold your plate before the fire, at such a distance, as that, without melting the mixture which may be upon it, the fair water may be dried up. Then take a little piece of charcole, and therewith rub off the varnish in some place where the strokes are faint: and if you find that the *Aqua fortis* hath eaten deep enough in those faint places, melt your mixture, and having plac'd your plate upon a desk or easell, take of the said mixture with a pencill fit for your work, and cover therewith all those places which you desire should be tender, and free

free from any further operation of the *Aqua fortis*, taking great care that you bestow mixture thick enough on the places which you would have covered, that is, that the mixture may fill up the strokes. And it is at this first operation, that you are to cover all the faintest and sweetest places.

Having held your plate so long to the fire that the moisture is quite taken off (a thing only necessary in the winter time) put it again upon your board, and pour on your water as before, for the space of about half an hour, turning your plate from time to time according to the severall postures, as is before expressed. That done, wash off the *Aqua fortis* with fair water as before, and dry your plate by the fire, taking especiall care that you melt not the mixture which you had before put upon it.

Your plate being dri'd put it upon the desk or easell, as before, and having melted your mixture, cover therewith those faint places and hatches that are next in point of faintnesse to those that you had covered before. The severall degrees of faintnesse in the hatches you have severall examples of in the following figure.

You have been directed before how to guide your needles and Ovall points, and I have told you how you were to lean strong and firmly on the places where you would have the strokes to be black and deep, and slack and lighten your hand where you would have them faint and tender, a thing which very much facilitates the operation of the *Aqua fortis*. For instance, when you have at the first time with your mixture cover'd that part which is enclos'd by the line A B C D. which makes a kind of

an Oval: you come at the second time to cover that space which is between the line A B C: and the line E O E. conceiving well, that having suffered the *Aqua fortis* to eat in for the time requisite, it will have an effect somewhat near that which you expected.

At the upper end of the plate you have the form of a woman's arm, wherein you may perceive, by the line marked a b c d; as also by the other which lies yet nearer the shadow, how the small hatches and fainter places are ordinarily covered at two severall operations, as occasion shall require; though in the forementioned example of the arm, one time covering might haply serve.

I have also thought fit at the bottome of the plate, to set down four severall pieces of ground in land-skip, the first marked m m m; is the first covered, as being the farthest of all from the eye, then at another operation that marked n n n; then that marked o o o: there being only that marked p, wherein the *Aqua fortis* eats in full and deep.

It may be objected, that the light or hard leaning on the points in their proper places in working, may make the strokes and hatchings so, as that the *Aqua fortis* may eat in answerably to your expectation, without the trouble of covering any places with your mixt're: To this I answer, that the work will not altogether have that effect, but will be like the second plate, which I have purposely made after that manner: for though you can lean harder on some places, and lighter on others; yet the *Aqua fortis* being pour'd equally all over the plate, during the whole time, it must follow that some places





places will not be so sweet and tender as they ought, and shall come farre short of that beautifull and lively continuity which you may perceive in those lines [and strokes where you use the mixture.

If it happen, that when you dry your plate by the fire to take off the moisture, as hath been said before, that the mixture for want of care, do melt and run into those hatches and strokes where you would have the water to eat in further; wipe the place with a soft cloth, then take the crum of stale bread, and rub the place therewith till such time as you conceive you have taken off all the greasiness. This remedy is only appliable in point of extremity; for you are to note, that it is impossible to take out the grease so clearly, but that it will somewhat hinder the operation of the *Aqua fortis*. And therefore there must be the more care taken to prevent it.

Having thus cover'd your places as occasion requires, for the second time place your plate on the board aforesaid, and pour on it your *Aqua fortis* for another good half hour.

That done, wash it with water, and dry it as formerly, and cover the places you think requires it for the third time, for you must know that the faint places are to be proportionable to, that is, more or lesse, according to the severall designs and pieces you work upon. When you have done this, pour on your *Aqua fortis* upon it for the last time, and it is at this operation, that you are to bestow more or lesse time above the precedent, according to the nature of your work.

For instance, if there be in your plate such hatches and shadows as require much depth and fulnesse, and consequently must be very black, you are to pour on the *Aqua fortis* for the space of an hour or better at this last operation alone, that is proportionably to the precedent. You may well imagine that there can be no certain rule given in generall, either as to the convenient covering of the places, or the precise space of time that is to be observ'd in casting on the water: for it is not to be conceiv'd that *Callor* pour'd as much water on his little pieces as he did on those that were greater.

I told you before, how that you may rub off your varnish or ground as occasion requires, with a charcole, to see whether the water hath eaten in deep enough: you are therefore to judge of the space of time that you are to employ in pouring on the *Aqua fortis*, by the works you are to do, and where I tell you that you may bestow an hour and better on the last operation, my meaning is, in pieces that require much blacknesse. All which notwithstanding, it is to be considered that all copper and all sorts of *Aqua fortis* not being of the same strength, nature and equality, you are to proceed accordingly.

Having therefore pour'd the *Aqua fortis* upon your plate for the space of an hour, more or lesse, as the work requires as is before said, wash it again with fair water; but you shall not need to dry it as in the precedent operations; but put it wet as it is upon the fire, till your mixture be all melted; and then wipe it very clean on both sides with a linen

nen cloth, till you have quite taken away all the mixture.

Sect. 18. *How to take the ground or the varnish off the plate, after the Aqua fortis hath done its operation.*

TAKE a char-cole of willow or some such soft grain'd wood, and take off the rinde of it, and pouring fair water on the plate, rub it with the char-cole with an even hand, as if you were to polish copper, and it will take off the varnish. Be carefull that no dust or filth fall upon the plate; as also that the char-cole be free from all knots and roughness, for it might occasion small scratches in the plate which it would be difficult to get out, especially in those places which are most faint and sweet. Note that you are not to use such a burnt cole as you do to polish withall.

When the varnish is taken off, the plate is of an unpleasant colour, by reason of the operation of the fire and water upon it. To reduce it therefore to its proper colour, take some ordinary *Aqua fortis*, to which add two third parts of fair water, and with a little linnen ragg dipp'd therein, rub your plate all over, and you will find it come to its ordinary colour and beauty.

That done, take immediately a dry linnen ragg, and wipe it all over so as to take off all the foresaid water. Then hold your plate a little to the fire, and pour on it a little sallad-oyl, and with the brims of an old beaver roll'd up, rub your plate well all over with it; then wipe it with a dry cloth.

This

This done, you will perceive plainly if there be any places that require to be touch'd with the graver, as it for the most part happens, especially in those places that are to be most black. For you may well judge, that when there are many strokes and hatchings one close to another, there is so little varnish between, that the *Aqua fortis* commonly takes it off, because it eats under it.

But if this happens when you cast on your water, you may presently cover those places where you perceive the varnish to break up with the mixture, it being much more easie to touch it afterwards with the graver, then when the *Aqua fortis* hath made a pit therein, which at the working of it off at the presse causes a great black patch; but after some number of coppies taken off, the said patch seems to be white, because there is not any thing for the ink to fasten on.

Having therefore in good time cover'd that part, you have no more to do but to perfect those strokes and hatchings to make them more firm and beautifull; which done, your plate is ready for the Rolling Presse.

OF SOFT VARNISH.

Sect. 19. *How to make it, and the uses it is to be put to.*

TAKE an ounce and a half of virgins wax, the best and whitest, one ounce of Mastick *in tears*, neat and pure, half an ounce of Spaltum; grinde the Mastick and the Spaltum severally very fine; then melt your Virgins wax in an earthen pot well leaded, and when it is very hot, strew in your beaten Mastick all over, and stir them together with a little stick till such time as you may judge the Mastick to be well incorporated with the wax, & after that strew in also the Spaltum, as you did the Mastick before, and stirre the whole mixture together upon the fire, till the Spaltum be likewise well dissolv'd and mixt with the rest, which is likely to be done in the space of half a quarter of an hour; Then take it off from the fire, and let it cool a little; Then pour in the said composition into a basin of fair water, and first wetting your hands (which must be very clean) in the water, take out the said mixture before it be quite cold, and having well moulded it to squeeze out the water, roll it up into pieces about an inch diameter, and two or three inches long.

You may if you please to make it the more free from any kind of filth, as you pour it into the basin of water, passe it through a fine linnen cloth; but it is as well not to passe it through, but after it

is moulded to wrap it up in a piece of fine linnen cloth or Taffata, two or three times double, and so use it.

You are not to put in so much of Virgins wax in Summer as in Winter. There are severall other compositions of soft varnish that might be us'd, but this I judge to be the best of any that I have found.

Sect. 20. The manner of laying your soft Ground or varnish upon the plate.

HAVING your plate well polisht, and cleansed from grease, take the soft varnish prepared as is before mentioned, and put the said plate over a chafing-dish wherein a moderate fire hath been kindled, and heat it in such sort, that the varnish may easily dissolve as it passeth through that which enwraps it : The plate being thus heated, take the varnish cover'd as aforesaid, and applying it by the end of the roller, spread it upon the plate while it is hot, carrying it lightly over from one side to the other, untill the plate be covered thin and equally all over : this being done, and having a quill that hath a smooth feather, take it, and with the broad side thereof sweep it gently over the varnish and swiftly, to the end it do not burn. The first time, the feathered end of the quill shall onely serve to spread the varnish over the plate ; but afterwards make choice of another, the best feathered quill you have, and go it over again lightly, that the varnish may be extended very equally all over the plate and very thin ;

thin; for when it is laid on too thick, your work cannot be so fine and delicate as otherwise it would; and if the plate should cool, and consequently the varnish, you must heat it a little again, to the end that it may receive the varnish as it passeth through the linnen. Also take great care, for your better ease in the spreading of it, that your plate, and by consequence your varnish, happen not to burn: Which that you may the more easily perceive, take notice, that when it is too hot it casts it self into little clots and pumpled, by reason of over much heat of the plate.

As soon as you have evenly spread your varnish upon your plate, black it over with the flame of a candle after the same manner as I have already mentioned in speaking of your hard varnish: provided only, that the flame approach not too near; this is to be done in one case rather than in another, and that is, when having blackt it all over, you perceive that the smoke hath not entred within, by reason of its growing cold: Therefore it will be convenient to put your plate again over your chafing-dish, and you shall see, that as soon as the plate is hot, the varnish will dissolve; and by consequence, the black which the smoke hath left upon the varnish, will altogether pierce as farre as the plate.

Be carefull above all, in doing this, to have a moderate fire, and still to remove your plate, in such sort that the said varnish melt equally all over without burning.

After that, let your plate cool, and when you shall think fit to work upon it, place your design altogether after the same manner, as upon your hard varnish

varnish, (the backside thereof being rubb'd with the dust of red chalk) excepting onely, that you must not lean so hard on with your point in drawing the out-lines of your design, lest by so doing the needle cutting through the paper should raze the varnish.

Next you proceed to work upon your plate with the same kind of points, as those which are mentioned for hard varnish, excepting those Oval points, which many that etch with soft varnish never use : Neverthelesse they are very commodious, especially for the working any piece of Architecture, or making of large strokes ; and it is at the choice of those that grave, either to use them or not to use them : But there is one thing to be considered, of which you are to have a very great care, and that is, how to keep the soft varnish upon the plate, for it is very apt to be rubbed or razed off, if any thing never so little violent happen to touch it : There are severall wayes of keeping it unhurt ; for example, working upon the plain, or on a desk, you may have on the sides of your plate two little boards, of what bignesse you please, or two little books of the same thicknesse, and lay another thin board upon them, so as that it may not touch the plate, and rest your hand upon this board as you work.

There are some which work with their plate laid upon a kind of Easle, as a Painter doth when he paints ; but all men cannot set themselves to this manner of working, although it is very much approved of, for many reasons which hereafter shall be alledged.

To work upon the said soft varnish, you must handsomely place your board upon a desk, and then lay a leaf of brown or white paper upon it; so as it be fine and smooth it imports not much: Lay then your plate upon it. Afterwards take a linnen cloth without any kind of Seam, which hath been often put to other uses, to the end it may be the more gentle and soft. Then double it three or four times in folds, and lay it upon your varnish; whereon rest your hand, as you use in like manner sheets of paper upon hard varnish: And the reason wherefore this caution is to be observed by you, is, lest the buttons of your sleeve should rub off the varnish.

Be very carefull, that there be no dust or filth found upon your varnish; if you chance to spie any upon your plate, wipe it lightly off with one of your large soft pencills, considering that there is much more care to be had for the preserving of soft varnish then of hard; and that was the cause which made the Author to leave it off, especially in pieces that required long time and much pains, it being much more easie to make a firm winding-stroke upon hard varnish then upon soft; for as much as the hardnesse of the varnish holds your point as it were engaged, which makes the strokes to be the deeper, and better, imitating the firmnesse and neatnesse of the strokes of a graver. Moreover, when you are at work in soft varnish, you must have a speciall care, lest any other person then a practitioner of your Art, touch or intermeddle with your plate; and if any kind of greasie matter happen to drop upon it, your plate will

will be incurable: but if it should chance to fall upon hard varnish, you may then make it clean with a linnen cloth, or crumms of bread.

Those that work upon soft varnish, if they put their plate on a desk or easle, they are not in so much danger of rubbing off their varnish, nor do they need so often to wipe away that which comes off in working; for as much as the plate being placed obliquely, the superfluous matter falls away of it self. I have not thought fit to make any resemblance of it, since it is not likely that any of those who intend to etch after this manner, can be ignorant how a Painter works upon an easle, there being no other difference but onely this, that a Painter useth a pencill, and a Graver his etching-tools. The truth is, that the Artist ought to rest his plate very firm, especially when he is very intent upon the making of any exact strokes.

Callot wrought upon hard varnish after the same manner, but it was to the end that his health might be the lesse impaired, supposing that to sit stooping to his work (though it were never so little) would be hurtfull to him.

Sect. 21. *How to border your plate, that it may contain your Aqua fortis.*

GEt soft wax, either red or green; if it be in Winter, soften it at the fire; in Summer it will be sufficiently soft of it self: In the managing of it, put it round the brims of your plate, raised about half a quarter of an inch from the surface of the plate, being as it were a little rampart; in such sort, as that

that placing your plate very leuell, and afterwards pouring your *Aqua fortis* upon it, the water may be retain'd by the means of this border of wax, so as, that the water may be equally diffused all over; but before you pour it on (to prevent its soaking through between the wax and the plate) if need require, heat a little piece of Iron, and run it over on the out side where the plate closeth with the border.

Having thus bordered your plate, take common *Aqua fortis*, such as is used by the Refiners, pure and good, and mingle it with common water, being in quantity about the third part of your *Aqua fortis*; or if you have *Aqua fortis*, of which you have made former use in etching, mingle it with the pure *Aqua fortis* in stead of common water, and let the quantity be proportionable to the strength of it; then pour it gently upon the plate, in such sort as that it may remain upon it the thicknesse of half a fingers breadth all over: if you make use of the strongest *Aqua fortis*, be carefull to mingle it with the greater quantity of common water.

Then you shall see that the water will work and bubble up in those stronger hatchings that are most firmly stricken; as for those that are fainter you shall perceive them clear at first, and of the colour of the copper, the water not making on a sudden any other operation than appears to view.

Afterwards, when you shall have perceived the water to operate a small time, pour it off from the plate into some vessell which is most proper to contain it, as into an earthen dish well varnisht, or the like, then throw some fair water upon the plate, to

extinguish and wash away the remainder of the *Aqua fortis*, which was upon the plate, then dry it by the fire, as you have been taught before, when we discourst of hard varnish; and as touching your soft varnish and *Aqua fortis* of the Refiners, be carefull in especiall manner to cause to evaporate that moisture, which in the Winter time is commonly between the copper and the varnish, before you lay on your *Aqua fortis*: The superfluous moisture being evaporated from it, take your mixture of oyl and grease, as is before mentioned in the beginning of this discourse of hard varnish, and therewith cover those places which ought to be most tender and sweet; and having covered them the first time, lay on again upon your plate the same *Aqua fortis* which you had taken away, and leave it on for one half quarter of an hour, or a longer time, according to your discretion; then take off the *Aqua fortis*, and cover with your mixture those next places, as you shall see occasion: And as you would have your lines or strokes to be deeper and deeper, so cover the sweeter part by degrees with your mixture, that the *Aqua fortis* may ly the longer on the deeper strokes.

Lastly, lay on yet again the aforesaid *Aqua fortis*, and leave it on for the space of half an hour, either more or lesse according to the strength of the water and nature of the work, then take it away and cast some fair water upon the plate again.

That being done, take off your border of wax, then heat your plate, so that the oylly mixture and the varnish may thoroughly melt; then wipe it well with a linnen cloth, afterwards rub it all over with
oyl-

oyl-Olive, with a piece of old beaver roll'd up, and that being done, touch it over again with your graver in those places where it shall be needfall.

One thing I shall advertise you of, which is, that while the *Aqua fortis* is upon your plate, you take a feather and dip it to the bottome of the said *Aqua fortis*, sweeping it along to remove the froth or scum which gathers upon your strokes or hatchings, while the water makes its operation; as also to give the more way to the operation of the water, and to see if the varnish be not broke up, which the bubling of the water hinders you from discerning.

You may also take notice that the *Aqua fortis* of the hard varnish, will serve excellently well to eat into the work made by the aforesaid soft varnish, and that the manner of applying the oily mixture, is all one with that of hard varnish, and who ever useth it may be assur'd, that it is much more excellent for this purpose than that of the Refiners; Moreover, it is not so subject to cause the varnish to break up, nor to many other accidents, as the being hurtfull to the sight, or to ones health, as that of the Refiners is, neverthelesse every one may use which of them he pleaseth.

Sect. 22. *The manner how to lay a white ground upon your hard or soft varnish.*

THere is a way to whiten your varnishes upon the plate, in stead of making them black with a candle, which is thus.

When you have apply'd your hard varnish (as

hath been taught) upon the plate, harden it upon the fire without blacking it, yet in the same manner as if it were blackt, then let the plate cool; and having gotten white Cerusse and put it into an earthen dish well leaded, with a little Flanders Starch in it, set them upon the fire and melt them together, making them pretty hot, that being done, take up the white Cerusse, which ought to be indifferently clear, with a brush or great pencill of hoggs hair, and therewith whiten your varnish, laying it as thin and as even as you can, then leave it to dry, laying the plate flat in some convenient place; and if by chance in whitening it, the white be difficult to spread, you need do no more, but put among the said white Cerusse a drop or two of the gall of an Ox, and so mingle them together in the dish with your brush. And for the soft varnish, you shall need onely to do the same thing; after you have laid it upon the plate and extended it very evenly with the featherd end of your quills; Some will say, that if they black it before they apply the white upon it, when they come afterwards to grave, the hatchings will be the more black, and by consequence will appear so much the more distinct to the eye. But to this I answer :

First, That when it is blackt, the white will not touch it, and that they must not venture to put so much gall, for fear of spoiling the varnish.

Secondly, That if the white should spread wel, yet it would not appear otherwise then grey, by reason of the blacking of the said varnish, unlesse you should lay it so thick that all would be nothing worth.

The

The marking of your design upon soft varnish, is performed with the dust of red chalk (as is before mentioned) speaking of hard varnish, or with rubbing well the paper or design with the dust of black chalk or black lead, when the varnish is made white: for red chalk is most proper for a black ground.

When you shall have grav'd that which you intend upon the soft varnish, and that you go about to etch your plate with *Aqua fortis*; that which you have then to do, is to take a little fair water, somewhat more than lukewarm, and to cast it upon the said plate, and then with a soft clean sponge, or with the fleshy part of the end of your finger, to rub upon the said white Cerusse to moisten it all over; afterwards wash the said plate to take off the whiting of it, and then dry it. Lastly, you may lay on which of the two *Aqua fortisses* you please; and for the preserving of the said white varnish, while you are working, you shall onely need to lay upon it a piece of soft linnen instead of paper, or else of Damaskt linnen.

If you shall choose rather to take away the said whiting, you must take some *Aqua fortis* of the Refiners, tempered with fair water, lay it upon the plate, dispersing it all over, this will soke and quickly eat in, after that you have also thrown clean fair water upon it, having in this manner taken away the whiting, you shall also let the water dry up, which shall remain upon it, and lastly cause it to eat into your work as I have said before.

Sect. 23. Another way how to lay a white upon your varnish.

TAKE Cerusse of the best and grind it very fine upon a stone with fair water, that being done take gum-water, and pour a small quantity upon the stone and mix it with the Cerusse, then take a large pencill of hoggs hair or the like, provided it be not too stiff, with that pencill take it off the stone, and spread it thin all over your plate; and immediate after, take a larger pencill made of long and very soft hair, either of a Foxes tail, or Bears hair, and with a very light and gentle hand passe it all over the plate, so as to make it ly exactly even in all parts, that the streaks of the former brush may not appear, then place your plate so, that it may ly very even, and let it dry.

By the way it will be necessary to give you this advertisement, that you are not to mix too much gum with the white, nor too little; for if there be too much it will break and crack the varnish, if there be too little it will easily rub off: therefore you must be carefull to use neither more nor lesse than will just serve to binde the white upon the plate. Likewise you must have a care not to lay it too thick, for if it be, you cannot work with that neatnesse and curiosity as otherwise you may.

Sect. 24.

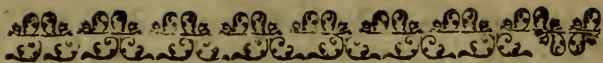
Sect. 24. *Here followeth the manner, after that your plates are eaten into by the Aqua fortis, how to touch up, or re-grave that which haply you may have forgotten, or that which you would amend or supply.*

BEfore I make an end, I thought fitting to shew you the manner, how to touch over again many things according as need may require, by the means of *Aqua fortis*, as when it happens that having made upon your copper any thing that doth not at all please you, and that for this cause having covered it with your oyle mixture, to the end that the *Aqua fortis* should not perform its operation, or that you would add any ornaments either in Drapery, or any other thing which might be thought on, upon severall occasions. In this case therefore take your plate and rub it over well with oyl-Olive, in those places where there is any thing graven, in such sort, as that the blacknesse and foulnesse, which is likely to be in the hatchings or strokes may be taken away. Afterwards take out the grease so thoroughly with crumms of bread, that there may remain no grease nor filth upon the plate, nor in any of the strokes or hatchings.

Then heat it upon a char-cole fire, and spread the soft varnish upon it with a feather, as hath been said before. That which you are to take speciall care of is, that the hatchings, which you would have to remain, be filled with varnish: That being done, black it, and then you may touch over again, or add what you intend. And lastly, make your hatchings by the means of your

needls, according as the manner of the work shall require, being carefull before you put on the *Aqua fortis*, to cover with your oyle mixture (as is said before) the first graving which was upon your plate; for in case that the varnish should not have entred all over, that to be sure will: In so much, that if it should happen in some places of the hatchings, there should be neither of the mixture nor varnish, the *Aqua fortis* would not fail to enter and spoil all. Having then caused the *Aqua fortis* to eat into your work, take away your varnish from your plate, by the means of the fire, as hath been said before.

The



THE ART OF GRAVING.

Se&. 25. The severall wayes of drawing your design upon the plate.

BEfore I speak of the manner of managing and whetting your Graver, I think it will not be amisse to let you know the wayes that are used in the drawing your designe upon the plate; which must be of the same bignesse as your design or print is, which you intend to copy.

Put your plate upon the fire and let it heat a little, then take a piece of the whitest Virgin-wax and spread it thin over the plate, and with a smooth feather gently stroak it all over, to the end it may lie the more even and smooth; then let it cool. If you intend to copy a printed picture, and that you would have it to print off the same way when it is graved, with your pattern; then you must place your picture which you would grave, with the face or printed side next to your plate, waxed over as is before mentioned; and having placed it very exactly, rub the back-side of the print with a burnisher (or any thing that is smooth and round) and you will find that it will stick to the wax which

is upon the copper : When you have so done, take off the print (beginning at one side or corner) but be carefull you take it not off to hastily, for by so doing you may tare your print or design ; and also if you put your wax to thicke upon the plate, it will be a means to cause the same inconvenience.

But if you would grave it the same way as your print or design is, then take the dust of black-lead or black-chalk, and rub the backside of your drawing or print all over therewith, and place it with that side so blacked towards the plate so waxed, as is before mentioned ; and with your needle or drawing-point draw all the out-lines of your design, and you will find all those lines upon your plate ; but if you desire to preserve the backside of your design from being blacked with the dust before mentioned ; then take a fine thin piece of white paper of the bignesse of your design, and instead of rubbing the backside of your print or design, rub one side of the said paper with the dust or powder of black-chalk as is before mentioned ; and placing it with the side so blacked, next to the plate waxed, over-lay the backside of your design upon the paper, and fix them both firm to your plate at each corner with a little wax, then draw the out-lines of your design : onely note, that you must lean somewhat harder with your needle in drawing.

There are other wayes used for this purpose, which I think needlesse to trouble you with ; onely this I shall tell you, that in case you desire to preserve your design from being any way defaced by the marks of your needle in drawing the out-lines:
take





Fig: I.

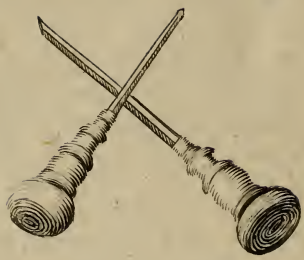


Fig: II.

Fig: III.

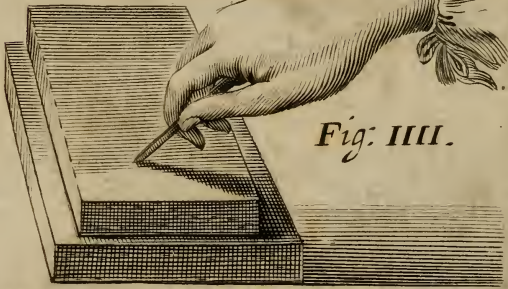
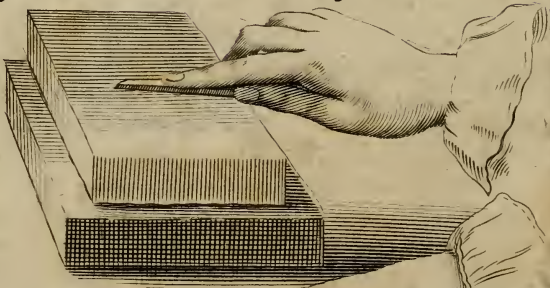


Fig: IIII.

take a fine piece of white paper, and having oyled it hold it by the fire, to the end the oyl may sooner penetrate it; and having so done wipe it very dry with a linnen rag, and place the said paper upon your design, making it fast at each corner; and you will perfectly discern your design through the paper; then with a black-lead well pointed, draw all the out-lines of your design upon the said oyled paper; when you have so done, place it upon the plate in the like manner as is before mentioned.

Sect. 26. *The forms of graving-tools, as also the manner of whetting your Graver.* Pl. 9.

THe upper part of this figure will shew two sorts of Graving-tools, the one formed square, the other lozeng: the square Graver makes a broad and shallow stroak, or hatch; and the lozeng makes a deep and narrower stroke. The use of the square Graver is to make the largest strokes, and the use of the other is to make the strokes more delicate and lively. But I preferre a Graver made of an indifferent size betwixt both these two; which will make your strokes, or hatches, shew with more life and vigour; and yet with sufficient force, according as you shall manage it in your working: The forms of which will appear in the I. and II. figures.

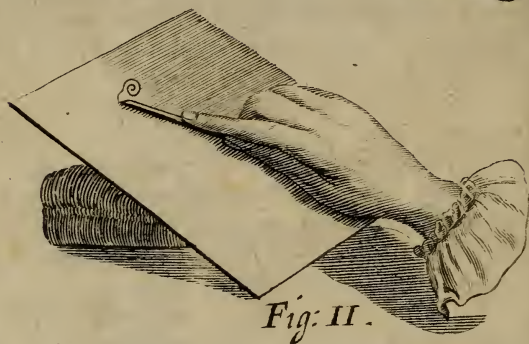
The III. figure shews you how to whet the two sides of your Graver, which is to be done in this manner following; you must have a very good oyl-stone smooth and flat, and having powred a little Sallad oyl thereupon, take the Graver, and laying one side of it (that which you intend shall cut the copper)

copper) flat upon the stone, whet that side very flat and even; and to that purpose have an especiall care to carry your hand stedfast, and with an equall strength, placing your forefinger very firm upon the opposite side of your Graver; to the end that you may guide it with the more exactnesse: then turn the very next side of your Graver, and whet that in the like manner, as you did the other; so that there may be a very sharp edge for the space of an inch or better; then turning uppermost that edge which you have so whetted, and setting the end of your Graver obliquely upon the stone, carry your hand exactly even, to the end that it may be whetted very flat and sloping, in the form of a lozeng, making to the edge a sharp point, as the figure III. shews you.

It is very necessary that you take great care in the exact whetting of your Graver; for it is impossible that you should ever work with that neatnesse and curiosity as you desire, if your Graver be not very good, and rightly whetted.

I cannot demonstrate it so plain and fully by figures, and discourse, as I would: if you have acquaintance with an Artist in this way, you may easily understand it in a short time.]





Se&t. 27. The manner how to hold your Graver, with other particulars.

YOU may see also that the uppermost part of this figure describes to you the form of two Gravers, with their handles fitted for the whetting. They that use this Art, do before they make use of them, commonly cut away that part of the knob or bowl that is at the end of their handles, which is upon the same line with the edge of their Graver; to the end it may not obstruct or hinder them in their graving, as the figure II. shews you.

For if you should work upon a large plate you will find that part of your handle (if it be not cut away) will rest so upon the copper, that it will hinder the smooth and even carriage of your hand in making your strokes or hatches; also it will cause your Graver to run into the copper in such sort, that you shall not be able to manage it at your pleasure.

The third figure describes to you the way of holding your Graver; which is in this manner. You must place the knob or ball of the handle of your Graver in the hollow of your hand, and having extended your forefinger towards the point of your Graver, laying it opposite to the edge that should cut the copper, place your other fingers on the side of your handle, and your thumb on the other side of the Graver, in such sort that you may guide your Graver flat and parallel with the plate; as you may see in the IIII. figure.

Be carefull that your fingers do not interpose
be-

between the plate and the Graver, for they will be troublesome, and hinder you in carrying your Graver level with the plate, so that you cannot make your strokes with that freedome and neatnesse, as otherwise you may. This I think fit to give you notice of in this place, because the skill of holding your Graver is that which you must first perfectly learn, and be able to practise without pain or difficulty ; or else you will not gain so great a readinesse and command of your hand, as is required in an accurate and skilfull Graver.



Sect. 28.



Sect. 28. *The manner of governing your hand in Graving, and other particulars.*

HAVING described the way of holding your Graver, the next thing is to shew you how to guide your Graver upon the plate in making of your strokes, which are streight or crooked; that you may work with the more ease and convenience, you must have a strong round leather cushion fill'd with sand or fine dust; let it be made about half a foot broad in the diameter, and three or four inches deep; lay this upon a table which standeth fast and firm; then lay your plate upon the cushion, as is described in the II. figure in the former Section.

When you are to make any straight strokes, hold your Graver as is directed in the former Section; and if you will have your strokes deeper or broader in one place than in another, in that place where you would have them deepest, you must presse your hand hardest; but especially in making of a streight stroke, be carefull to hold your plate firm and stedfast upon the cushion.

And if you make any crooked or winding strokes, then hold your hand and Graver stedfast; and as you work turn your plate against your Graver; for otherwise it is impossible for you to make any crooked or winding stroke with that neatnesse and command, as by this means you may, if you do not move your plate, and keep your arm and elbow fixed or rested on the table.

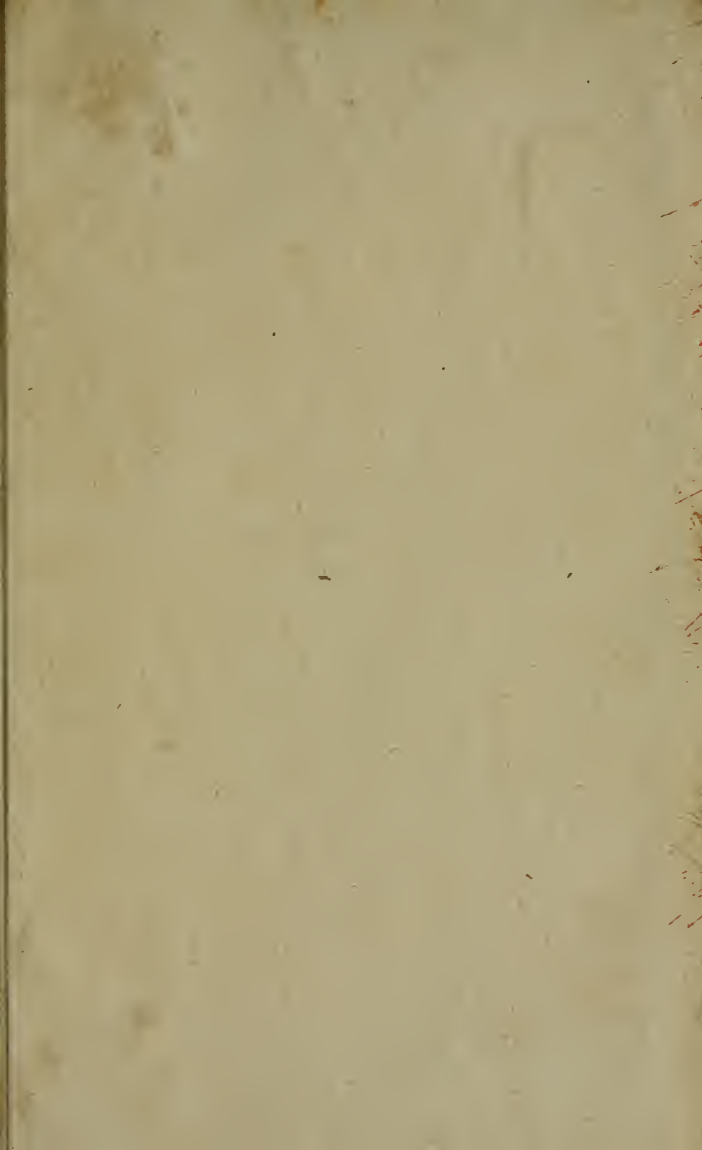
If as you are working your Graver happen to break often on the point, it is a sign it is tempered too

too hard; therefore take a red hot charcole, and lay the end of your Graver upon it, and when you perceive your Graver to wax yellowish, dip it in the water: If your Graver become blunt without breaking, it is a sign it is nothing worth.

It will be convenient for you to have a piece of box or hard wood, that after you have sharpened your Graver, by striking the point of it into the said box or hard wood, you may take off all the roughness about the point, which was caused by whetting it upon the oyl-stone. After you have graved part of your work, it will be necessary to scrape it with a sharp edge of another Graver, carrying it along even with the plate, to take off the roughness of the strokes; but in so doing take heed of making any new scratches in your work.

To the end you may better see that which is graven, they commonly roll up close a piece of a black Felt or Castor, liquored over a little with oyl-olive, and therewith rub the places graven: And if you perceive any scratches in your plate, rub them out with your burnisher: and if you have graved any of your strokes too deep, you make them appear fainter with rubbing them with your burnisher.

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